

Q' d
determined up to now for example by osmometry, light scattering, gel permeation chromatography etc.

Q
Page 2, last paragraph extending to page 3:

In accordance with an advantageous embodiment of the method according to the invention, the thin polymer layer is produced by a spin coating procedure. Basically, any procedure can be used for producing the thin polymer layer as long as the layer thickness depends on the molecular weight of the polymer. The spin coating procedure however has the advantage over other procedures that thin polymer layers can be produced thereby in a simple and highly accurately reproducible manner and in a very short time. In combination with the ellipsometric method for determining the thickness of the polymer layer produced by the spin coating procedure, the molecular weight of the polymer can be determined rapidly by the use of spin coating.

Q
Page 4, second full paragraph:

In order to prevent the evaporating solvent from depositing on the optical parts (lenses) of the ellipsometer during operation of the apparatus, that is, during the procedure in which the thin polymer layer is formed, the lenses can be covered so that they remain undisturbed for the subsequent ellipsometric examinations.

Q
Page 6, first equation:

$$\text{Layer thickness } d \sim [\eta]^{1/3}$$

Q
Page 6, line 30,

$[\eta]$ = intrinsic viscosity number

5
a

The constants K and a depend on the polymer and the used solvent. The parameters K and a are provided in tables for almost any polymer-solvent system. They are given in the "Polymer Handbook Brandrup Immergut". From the existing data banks, or respectively, the polymer handbook the respective parameters are available. A solvent can be selected, which provides a maximum value for the exponent a. This results in a maximum dependency of the layer thickness 14 on the molecular weight and accordingly the sensitivity of the process.

Amend the claims as follows:

a⁶

1. A method for determining the molecular weight of polymers comprising the steps of: preparing a thin layer of the polymer whose molecular weight is to be determined, determining the thickness of said layer by an ellipsometric method and calculating, with the thickness determined by said ellipsometric method, the molecular weight of the polymer material from a layer thickness - molecular weight correlation.

2. A method according to claim 1, wherein said thin polymer layer is prepared from a polymer solution on a substrate by a spin-coating process, wherein the substrate is rotated.

5. An apparatus for determining the molecular weight of polymers comprising a support structure supporting a substrate, an arrangement for providing on said substrate a thin layer of a solution of the polymer whose molecular weight is to be determined, and an ellipsometer disposed